Package 'IFNr'

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Type Package

Title A package to process data from forest inventories

Version 0.2.0

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Description A collection of functions to compute dasometric variables from forest inventory data. It allows users to compute basal area per plot and species, get the dominant species in each plot, or calculate biomass, among other utilities. See the documentation for a complete description of the functions available.

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Encoding UTF-8

LazyData true

RoxygenNote 7.3.1

Depends R (>= 2.10)

URL https://github.com/ameztegui/IFNr

BugReports https://github.com/ameztegui/IFNr/issues

R topics documented:

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calculate_allom	*Calculate tree biomass or volume over bark based on data from tree inventories and allometries from AllometrApp*

Description

Calculate tree biomass or volume over bark based on data from tree inventories and allometries from AllometrApp

Usage

```
calculate_allom(
  df,
  variable,
  equation = NULL,
  dbh = "dbh",
  height = NULL,
  sps,
  frac = FALSE
)
```

Arguments

df	The dataframe that contains the data
variable	The dependent variable that we want to calculate. "BAT" stands for aerial biomass, and "VOB" for volume over bark
equation	The allometric equation we want to use. Options include "INIA", "IEFC_1", "IEFC_2", "RUIZ", and "VOB"
dbh	The name of the variable that identifies diameter in the dataset
height	The name of the variable that identifies tree height in the dataset. If 'height' is missing, the funcion will calculate it from allometries and warn about it.
sps	A variable containing the names of the species
frac	Whether we want to obtain the biomass values by tree fraction (leaves, small and large branches, stem, bark). By default, 'frac = FALSE'

Value

* If 'frac = FALSE', it will return a numeric vector containing the BAT or VOB values for each observation in 'df'. * If 'frac = TRUE', it will return a data frame identical to 'df' but with some extra columns containing the biomass weights per tree fraction

Examples

```
data(inventory)
calculate_allom(inventory, "BAT", equation = "INIA", dbh = "Dn", height = "Ht", sps = "Sps_name") # including h
calculate_allom(inventory, "BAT", equation = "IEFC_2", dbh = "Dn", sps = "Sps_name") # without height
calculate_allom(inventory, "BAT", equation = "RUIZ", dbh = "Dn", sps = "Sps_name", frac = T) # biomass per fract
```

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get_BA	*Calculates dasometric summaries for IFN plots*

Description

Calculates dasometric summaries for IFN plots

Usage

```
get_BA(
  IFN,
  df,
  province = NULL,
  com_aut = NULL,
  species = NULL,
  per_CD = FALSE,
  per_species = FALSE
)
```

Arguments

df	data frame
province	vector of characters containing the name of the provinces to be included in the analyses
com_aut	vector of characters containing the name of the autonomous regions (Comunidad Autónoma) to be included in the analyses
species	vector of characters containing the name of the tree species to be included in the analyses
per_CD	optional. When 'per_CD = TRUE', the desired variable is summarized per plot and diameter class
per_species	optional. When 'per_species = TRUE', the desired variable is summarized per plot and species

Value

A data frame containing the level of aggregation specified (per plot, per plot & species, per plot and DC, per plot, species and DC), and the amount of the outùt variable specified

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inventory	*Inventory data*

Description

A subset of data from the 4th National Forest Inventory in Catalonia

Usage

```
inventory
```

Format

data frame with data from 100 random inventory plots randomly selected from the National Forest Inventory plots in Catalonia A data frame with 3,434 rows and 8 columns:

Codigo Code of the plot

nArbol tree order within the plot

Sps_name Tree pecies

Dn Tree diameter, in cm

Ht Tree height, in m

N Tree density (i.e. trees per hectare of that species and size)

Prov_Name Province in which the plot is located

CCAA Autonomous region in which the plot is located ...

Source

<https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-forestal-nacional.html>

Examples

```
data(inventory)    # Lazy loading. Data becomes visible as soon as needed
```

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